

We claim:

1. An isolated MHC class II antigenic peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs. 1 to 13, and 21.
2. The antigenic peptide of claim 1, wherein the peptide has amino acid deletions at the carboxy or amino terminus while at least maintaining the binding capacity of the original peptide to a MHC class II molecule.
3. The antigenic peptide of claim 1, wherein the peptide sequence contains at least one amino acid modification to enhance binding of the peptide to a MHC class II molecule.
4. The antigenic peptide of claim 1 linked to a MHC class II molecule.
5. The antigenic peptide of claim 2 linked to a MHC class II molecule.
6. The antigenic peptide of claim 3 linked to a MHC class II molecule.
7. An antibody reactive with an antigenic peptide of claim 1.
8. An antibody reactive with an antigenic peptide of claim 2.
9. An antibody reactive with an antigenic peptide of claim 3.
10. An isolated nucleic acid molecule encoding a peptide or polypeptide according to claim 1.
11. A recombinant nucleic acid construct comprising the nucleic acid molecule of claim 6 operably linked to an expression vector.
12. A host cell containing the nucleic acid construct according to claim 7.

13. An isolated nucleic acid molecule encoding a peptide or polypeptide according to claim 2.
14. A recombinant nucleic acid construct comprising the nucleic acid molecule of claim 13 operably linked to an expression vector.
15. A host cell containing the nucleic acid construct according to claim 14.
16. An isolated nucleic acid molecule encoding a peptide or polypeptide according to claim 3.
17. A recombinant nucleic acid construct comprising the nucleic acid molecule of claim 16 operably linked to an expression vector.
18. A host cell containing the nucleic acid construct according to claim 17.
19. A method for producing a MHC class II antigenic peptide, said antigenic peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs. 1 to 13, and 21, comprising the steps of culturing the host cell of claim 8 under conditions allowing expression of said peptide and recovering the peptide from the cells or the culture medium.
20. A method for producing a MHC class II antigenic peptide, said antigenic peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs. 1 to 13, and 21 having amino acid deletions at the carboxy or amino terminus while at least maintaining the binding capacity of the original antigenic peptide to a MHC class II molecule, comprising the steps of culturing the host cell of claim 8 under conditions allowing expression of said peptide and recovering the peptide from the cells or the culture medium.

21. A method for producing a MHC class II antigenic peptide, said antigenic peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs. 1 to 13, and 21 having at least one amino acid modification to enhance binding of the peptide to a MHC class II molecule, comprising the steps of culturing the host cell of claim 8 under conditions allowing expression of said peptide and recovering the peptide from the cells or the culture medium.
22. A pharmaceutical composition comprising the antigenic peptide of claim 1 and an acceptable excipient, diluent or carrier.
23. A diagnostic marker for cancer comprising a MHC class II antigenic peptide according to claim 1.
24. The diagnostic marker according to claim 23 wherein the cancer is melanoma.
25. The diagnostic marker according to claim 23 wherein:
the cancer is lung cancer; and
the amino acid sequence is selected from the group consisting of SEQ ID NO: 12, SEQ ID NO: 13 and SEQ ID NO: 22.
26. A diagnostic marker for cancer comprising a MHC class II antigenic peptide according to claim 2.
27. The diagnostic marker according to claim 26 wherein the cancer is melanoma.
28. The diagnostic marker according to claim 26 wherein:
the cancer is lung cancer; and
the amino acid sequence is selected from the group consisting of SEQ ID NO: 12, SEQ ID NO: 13 and SEQ ID NO: 22.

29. A diagnostic marker for cancer comprising a MHC class II antigenic peptide according to claim 3.
30. The diagnostic marker according to claim 29 wherein the cancer is melanoma.
31. The diagnostic marker according to claim 29 wherein:
the cancer is lung cancer; and
the amino acid sequence is selected from the group consisting of SEQ ID NO: 12, SEQ ID NO: 13 and SEQ ID NO: 22.
32. A method for treating cancer comprising stimulating the production of protective antibodies or immune positive CD4+ T cells through the administration of the antigenic peptide according to claim 1.
33. The method of claim 32 wherein the cancer is melanoma.
34. The method of claim 32 wherein:
the cancer is lung cancer; and
the amino acid is selected from the group consisting of SEQ ID NO:12 and SEQ ID NO: 13.
35. A method for treating cancer comprising stimulating the production of protective antibodies or immune positive CD4+ T cells through the administration of the antigenic peptide according to claim 2.
36. The method of claim 35 wherein the cancer is melanoma.
37. The method of claim 35 wherein:
the cancer is lung cancer; and
the amino acid is selected from the group consisting of SEQ ID NO:12 and SEQ ID NO: 13.

38. A method for treating cancer comprising stimulating the production of protective antibodies or immune positive CD4+ T cells through the administration of the antigenic peptide according to claim 3.

39. The method of claim 38 wherein the cancer is melanoma.

40. The method of claim 38 wherein:
the cancer is lung cancer; and
the amino acid is selected from the group consisting of SEQ ID NO:12 and SEQ ID NO: 13.